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Mobile Offshore Bases (MOB),
Operational Implications for the CINC or JTF Commander

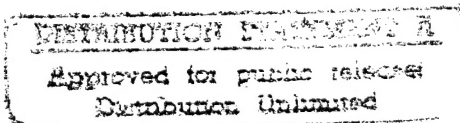
by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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The Mobile Offshore Base (MOB) is the force enhancer for tomorrow's CINC or JTF Commander. A smaller U.S. military has resulted in a reduced presence around the globe. Proper operational application of a MOB results in the ability to respond to crisis situations more rapidly and powerfully. The introduction of MOBs enable regions of the globe that have traditionally possessed a continuous presence of U.S. naval power to continue to receive such presence. A MOB has a useful service life in an AOR of 40 years, on par with other naval assets. A MOB provides the CINC with a turn-key JTF platform able to support a wide range of operational taskings from humanitarian assistance operations to power projection fires. The MOB is the transitional bridge in the application of future technology and enables a CINC to influence a region. This paper is but the first step in defining the operational applications a MOB offers. Do not become blinded by visions of an oil derrick; see the operational capabilities.

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Mobile Offshore Bases (MOB),
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The higher the military rank, the greater the degree to which activity is governed by the mind, by the intellect, by insight. Consequently, boldness, which is a quality of temperament, will tend to be held in check. This explains why it is so rare in the higher ranks, and why it is all the more admirable when found there¹.

I. Introduction.

The United States is in a period where technology is dramatically affecting military operations. World War I witnessed how the telephone, air plane, and machine gun altered military employment. In World War II, the introduction of aircraft carriers and small radios changed the operational approach of commanders. The Korean conflict produced the first application of helicopter borne forces and the jet aircraft. Vietnam proved to be a test bed for new and smart weapon development. Most recently, Desert Storm showcased technological advances in weaponry. Smart weapons rained on the Iraqis, U.S. satellite and data communications expanded to the point that it inexorably altered the way a higher command absorbs information and influences the battle, and transportation assets allowed a force closure that was unmatched in history.

Caught between expanding technology and dwindling DOD dollars, the U.S. military must focus on technology that enhances operational capabilities. Continuing to purchase enhanced incremental gains, for example the M1A2 and F-18E/F, is questionable, considering there is no foe on the horizon, or for the next decade, that can overcome our current systems. Exacerbating the fiscal dearth is the continued single service

approach to technology development, procurement, and operational application. Minor exceptions exist in specialized areas, i.e. space, SOC, cargo shipping, and airlift. To warrant procurement, considering the reduction of DOD funding, a new technology must meet the following criteria:

- Have an operational function.
- Provide an operational leap in capability.
- Support CINC missions.
- Have multi-mission/service application.

One much needed system which meets all these criteria is a Mobile Offshore Base (MOB). The drawdown and consolidation of DOD requires new and revised methods of conducting operations and sharing functions between the services. A MOB does this and is a platform that is self-sustainable, relocatable, and not dependent on overflight or basing rights. It is not concerned with sovereignty issues, or permission for access, and it reduces the military footprint ashore. MOBs present a CINC with a platform that can support a vast array of force choices, functions, and operations on a floating surface that is neither an island nor ship, yet is large enough to act as a forward operating base (FOB) or an intermediate support base (ISB). With minor procurement realignments, it is fiscally supportable within today's dwindling dollar. Best of all, it provides the CINC with a wide array of operational capabilities from which to chose.

II. Description.

Exploration in the use of a MOB has been ongoing for more than

twenty years. In 1973 the Naval Ship Research and Development Center published a study that proved, theoretically, a large MOB could be constructed². The MOB was under consideration for use as an island structure to replace lost basing facilities in southeast Asia. It was designed to be large enough to support landings and take-offs by C-5 aircraft and alongside berthing of naval ships.

Current development concepts envision a MOB that is modular in construction and assembled into sizes tailored to the mission³. Test designs have been constructed for inter-connected lengths up to 3,000 feet to meet varying mission dictums. Each module is constructed to fulfill differing functions and can act as a reception system that accepts plug-in shelters. The plug-in shelters can be as varied as cold storage food containers, maintenance shelters, communications shelters, or berthing shelters. The configuration used at any given time would be mission dependent.

Modular construction allows for adaptive packaging. Its mobility permits the CINC to relocate it to an increased threat area. MOBs are either self deployable or use ocean tugs, reducing costs by using existing technology. Service life span is estimated at 40 years⁴.

III. Positioning Considerations.

Global politics would dictate any location or locations chosen for a MOB. When the Navy first commissioned the 1973 MOB study their concern was the loss of the ports in Viet Nam, as well as the potential loss of Subic Bay. These ports are now gone and the area

is patrolled on an intermittent basis. Positioning a MOB in the South China Sea would place a semi-permanent presence in the region, enabling the U.S. to influence outcomes in a more timely manner than the seven day response time of a mal-positioned CVBG.

Overflight rights have hindered the U.S. in a number of power projection operations over the last 15 years. The placement of a MOB in a region can negate these hindrances.

If a single MOB, one 3,000 foot platform, were procured, the geo-position should be selected to enhance presence, ensure strategic mobility, compensate for the lack of infrastructure, and be a likely JTF location. This would allow for reduced movements of other large forces to the region on a day-to-day rotational basis, establish a cost effective long term presence in a region, and provide a spring board for growth from a small self-contained JTF to a much larger regional power projection JTF.

In geo-positioning, a MOB remains the most cost efficient option when compared to building a land facility. The east coast of Africa is a perfect example. The U.S. has no bases or basing rights there and is unlikely to build a base there in the next 25 years. Positioning a MOB off the African east coast would provide the U.S. with a platform capable of supporting any of the recent operations in Somalia and Rwanda, or future operations that will require a large Naval presence there for a prolonged period.

The geo-position must also be a likely operational area. The U.S. has employed forces a dozen times between 1991 and today in the region that is north of the equator from the east coast of

Africa to the Malacca Straits, a region containing 29% of the global population⁵. A MOB located in this area would provide the NCA and CINC with an operational latitude not currently available.

Response timing is a concern for a MOB, as it is for any response force. In consideration of the response timing of a MOB, planning for advance positioning is the norm. For a MOB to be responsive, a CINC will have to make an early decision for movement to the region of concern. When the use of a MOB is contemplated in a region, differing watch criteria must be used, due to the 10 knot⁶ speed and its effect on timely response. For example, a MOB geo-positioned west of the Maldiv Islands, in the Indian Ocean, can respond to an eastern African crisis within a 7 to 10 day window. Its ability to relocate to any littoral region allows it to be the force multiplier that a fixed or time dependent system can not provide. However, a MOB can not duplicate what a land-based facility offers a CINC in a troubled country. Nor can it replicate the movement capability of a Carrier Battle Group or Amphibious Readiness Group. What a MOB can do is remain in the area for years, only requiring provisioning of stocks and the rotation of personnel.

IV. Operational Applications.

Central to the U.S. National Military Strategy are two key elements: Overseas Presence and Power Projection⁷. Currently much of our overseas presence is tied to basing areas in various countries. The treaties with host nations vary from state to state. Inherent to these treaties is the requirement to notify or

obtain permission for the based U.S. forces to be moved or employed from the host nation. This is best illustrated by two examples: U.S. use of the Armored Division from Germany to Bosnia for peace-keeping and the transshipment of cargo from one U.S. vessel to another at Rota, Spain, during Desert Shield. In both cases the U.S. had to seek permission to use the host nation as a logistical transportation node. A MOB negates this. Operational uses of a MOB are as varied as mission assignments, see figure one.

Figure 1

MOB Operational Applications	
-Support Force/Benign Entry	-Rapid/Deliberate Reinforcement
-Humanitarian Assistance	-Maritime Intercept Base
-Forward Basing	-Exclusion Zone Base of Operations
-Intermediate Base	-Operating Base for Nation Building
-Strategic Reserve Equipment Sets	-Sustainment Stocks
-Counter Drug Operations	-Protection of Shipping
-Counter Insurgency Operations	-NEO Platform
-C4IW Node	-SOF Operating Platform
-Recovery Operations	-Strike Platform
-Show of Force	-Overseas Presence

This small representation of operational applications is not inclusive, but a representation of the wide range of operational taskings a MOB can perform as the primary or augmenting platform. A MOB forces questions such as: Is a MOB a ship or, due to its size and slow speed, a floating island, thus changing the paradigm of naval theory, from Mahanian to Corbettian. These points serve as the springboard for concept development and are indicative of the varied operational functions of a MOB.

Show of Force. The arrival of a MOB at an area of operations demonstrates our unmistakable willingness to bring forces to bear without dependence on or permission of other countries. A show of force using a MOB can be escalatory in nature. At one end of the

spectrum is its movement into a region without a large force or JTF embarked. At the next level of escalation, a fly-on JTF with associated air and ground forces for the execution of limited operational objectives can be embarked. Further expansion would be the embarkation of the full complement of the MOB: A JTF arriving by air craft, naval vessel, or commercial shipping.

Presence. One of the pillars of U.S. military strategy for the last fifty years has been presence. A MOB provides the U.S. a floating facility that is relocatable and tailored for the specific region or crisis it is supporting. The intent of U.S. presence is to assure a region that the U.S. will maintain peacetime engagement, deterrence and conflict prevention, and, if needed, fight wars⁸. A MOB accomplishes all three items while remaining a facility that is U.S. territory and unencumbered by host nation entanglements.

Forward Basing. The ability to forward base a MOB in any region provides a secure location for a CINC to prestage forces, equipment, and sustainment. This FOB can also serve as an ISB during force projection operations when a force arrives at the MOB, conducts unit assembly operations with MOB pre-staged equipment, and launches operations from the platform. Special operations forces, intelligence gathering, at sea replenishment, and C2IW are some of the functions that can be carried out from a MOB. For example, the Mediterranean geo-positioning of a MOB would offset the lack of a CVBG in a full time presence role⁹. The eastern Mediterranean MOB could be augmented with a slice of a carrier air

wing when the CVBG is not in the Mediterranean. This force enhancement is a result of having a FOB that projects presence by its size and capability as well as freedom of movement, being naval in nature.

Prestaged Strategic Supplies. Prestaged supplies are not a new phenomenon; Alexander the Great used them in his invasion of Iran in 330 BC¹⁰. While sustainment does not win a war, it is the great enabler for a CINC or JTF commander. As a maritime nation, the U.S. is dependent upon the maintenance of our sea lines of communication (SLOC) in supporting an AOR. A MOB reduces the quantity of sustainment supplies competing for the paucity of strategic lift in the early stages of any major/lessor regional contingency (MRC/LRC). It offers a CINC an enormous capacity for prestaging equipment and sustainment, see figure two.

Figure 2¹¹

MOB Capacity Comparisons			
Vessel Type	Dry Cargo Capacity (short tons)	Dry Cargo Space (square feet)	Fuel & Water Capacity (gallons)
3,000' MOB	115,000	965,000*	26,000,000
T-AKR Class (SL-7)	18,000**	210,000***	N/A
SGT KOCAK (MPS)	22,000	152,000	1,638,000
LT. BOBO (MPS)	18,000	162,500	1,686,000

* Excludes the topside exposed deck.

** Based on heaviest allowable mix of vehicle cargo.

*** Includes space with low overhead and/or loading restrictions.

The comparisons of capacities between vessels is dramatic and is provided to show the force enhancement capability of a MOB. When used with a JTF, a MOB can be the only geo-positioned asset used allowing other prepositioned assets to remain in support of different taskings or as a follow-on asset to the JTF.

Constructing the sustainment package in a manner that can support multiple operations or support a large single focus operation allows a CINC to alter his warfighting posture. With alongside berthing capability, prestaged supplies are changed or altered for operational requirements as the strategic posture shifts. For example, a geo-positioned MOB, in the Gulf of Oman, is configured to support operations in the Arabian Gulf region. With a reduced threat, the MOB could be moved to the Bay of Bengal in the aftermath of a natural disaster in Bangladesh. Enroute, the composition of the prestaged supplies is reconfigured and a JTF, humanitarian operations tailored, is embarked via C-130 aircraft from Diego Garcia and prepares for operations in Bangladesh. The MOB would provide the JTF with a long-term operational platform to support a humanitarian operation, without placing a large footprint ashore. This use of the MOB would free Amphibious units, allowing them to respond to other taskings or to form the initial corps of the JTF.

Prestaged Forces. Consider this possible scenario in 2001: The threat condition in the EUCOM AOR is increased due to a renewal of fighting in the Balkans. After the U.S. forces withdrawal in December, 1996, the peace had been tenuous at best. Now, after five years of regrouping and rearming, the Serbs have launched another attempt at expansion. The eastern Mediterranean MOB is repositioned to the Adriatic for operations. The first force to arrive is the JTF headquarters. The JTF commander is met by the Detachment Commander of an intelligence unit that has been onboard

the MOB the past four months monitoring signals intelligence in support of the Golan Heights peacekeeping operation. Following the JTF headquarters is a SOF unit or Special Purpose Marine Air Ground Task Force (SPMAGTF), providing the tactical recovery of air craft and personal (TRAP) force.

While the aforementioned example of prestaged forces is fictional, it is very realistic. No one within the U.S. military doubts that the most likely employment of our forces in the next decade will be to support these types of operations. The challenge that faces the military is how to maintain the increased operational tempo required for readiness with the reduced military resources available.

Launch Platform. The MOB presents the CINC with a platform that can augment other forces in the theater or region of operations. Able to remain in a region for a protracted period, a MOB blends into the background geography, becoming normal. In this fashion, a MOB becomes the perfect launch platform for Special Operations Forces (SOF), drug interdiction forces, or signals intelligence units and UAVs, as well as conventional forces. Additionally, perhaps in its most versatile role, a MOB can serve as the base of operations in support of humanitarian operations or disaster relief. The majority of the headquarters, special operations forces, logistics sustainment forces, and medical treatment facilities would be placed on the MOB. Positioning these forces afloat would reduce the strain of the logistics tail, enabling the JTF to respond earlier, with a more robust capability.

Operational Logistics. Addressed in minor detail in the preceding paragraphs, operational logistics is the linchpin of what a MOB brings to the region. Offering storage and sustainment facilities that complement the afloat prepositioned equipment sets of the Army and Marine Corps, a MOB is able to act as the next link of the force introduction flow¹².

Acting as a transshipment point, a MOB possesses the capability to conduct alongside operations with U.S. militarily useful RO/RC vessels. Additionally, the MOB can conduct LO/LO, container, and fueling operations from an instream position.

A MOB also provides a platform for the operations of the maintenance support area, which is currently tied to a shorebased area. A MOB in a JTF environment affords the commander a facility that provides the day-to-day sustainment of his forces in a secure and stable environment. Reducing the footprint ashore further, the MOB serves as the principle administrative facility for the JTF. While a MOB is not a remedy for all logistics problems, it goes a long way in reducing the sustainment footprint ashore, serving as a force enhancement.

Operational Fires. The offensive nature of a MOB hinges on its ability to deliver, over a wide spectrum of conflict, operational fires for a CINC or JTF commander. While a MOB cannot deliver all of the fires that would be required, it can provide the initial geo-positioned fire support, participating in initial or sustained fires. Building a MOB with missile cells places TLAM, ATACMS, and harpoon on board. Acting as a receiving platform for

aircraft allows a mal-positioned carrier air wing to launch forward to the crisis area and use the MOB as a launch and recovery platform until the carrier arrives¹³. The MOB then reverts to a throughput platform or acts as a conventional forces strike platform. Figure three depicts various types available to a CINC or JTF commander.

Figure 3

Operational Fires	
-Outside the geo-positioned MOB AOR	-Inside the geo-positioned MOB AOR
-Air interdiction	-Sea interdiction
-Tactical fires	-Strike missions; sea, air, or land
-Point targets	-Supporting fires

Support to Other Forces. Investment in a MOB is costly enough that it demands a base not limited to DOD use. Various agencies within the U.S. government need to be considered in a MOB's construction as well. Questions concerning other agencies use of the MOB include: Who is in command? Who establishes priority of use? How do military standard operating procedures (SOP's) interface with various agencies SOP's?

Command of the MOB. Who apportions the use of the MOB in an MRC: The Navy component, the Marine component, the Air Force component, TRANSCOM, or the CINC? How do coalition forces use a MOB? Will they be permitted use? During an LRC, when the JTF commander is using the MOB as a facility, who is in charge of apportionment of use?

C4 Capability. Creation and standardization of the C4 architecture ensures the widest operational use of the MOB. Construction of a fly-on/turn-on C4 structure assures a rapid response for a CINC or JTF commander. This C4 system is designed

to support a JFACC as well. A robust C4 system enables the JTF commander to conduct military operations across the spectrum of conflict, employing all of the forces available. Able to link the data interface from an E2 with information down linked from both J-STARS and AWACS, the JTF commander can influence the battle using a reconnaissance strike targeting architecture. This C4 system enables the JTF commander to accomplish the synchronization¹⁴ of his forces prior to their arrival, without the hindrances of time delays resulting from critical airlift shortfalls.

The CINC/JTF commander of tomorrow will have to support emerging Army doctrine (Force 21) and the new Naval doctrine (Naval Expeditionary Task Force (NETF) and Operational Maneuver From the Sea (OMFTS)) to remain credible from any command platform. The two command platforms currently in the active fleet, the USS Mt Whitney and USS Blue Ridge, are built on LPH hulls and are approaching the end of their useful service lives. A new command platform is needed. The carrier or LHA/LHD are unable to adequately execute this mission due to size and capability constraints, limiting their usefulness as a JTF C2 platform. Current and emerging C4 systems needed to support the commander throughout a campaign would be located on the MOB, enabling the commander to have a turn-key operation.

V. Defensive Considerations/Survivability.

Inherent to the construction of a MOB is its survivability to weather and hostile acts. Today's offshore platforms have a long history of a construction standard to survive storms and sea states

through sea state nine. Constructing a MOB to the same commercial standard ensures it has a survivability cross-over and able to sustain large battle damage. This paper does not attempt to define the method of construction or battle damage repairs, though a review is merited. Sufficient to say, survivability is a problem that has been explored¹⁵ and requires continued research.

Threat level drives the defensive requirements. Threat level, for this purpose, is the level and voracity of action that is delivered as well as the extent of damage that can occur. In a low threat level, e.g. counter drug operations, a MOB does not require surface combatant escorts. As the threat increases, requirements for surface and subsurface escorts increase. Using the MOB as the targeting C2 node, the battle space envelope a MOB controls is only limited by the quantity of sensors linked to the MOB. Using aircraft positioned on board extends the defensive envelope by the extension of sensor influence. By adding tier two and three theater ballistic missiles (TBM) on a MOB a new dimension of survivability is achieved.

Mine threat and counter measures are a concern for every ocean platform. A MOB stationed in deep water is unlikely to encounter many mines. Mines that are encountered will come from harassing mine fields or a drifting mine from a moored mine field. The size and compartmented redundancy of a MOB make it an unlikely candidate to be sunk by a mine¹⁶.

However, the best defense is not being in harm's way. Geopositioning a MOB in a supporting position affords the commander a

secure support platform. Supporting the force is the operational role most suited for a MOB in any conflict. In a supporting role combatants are rearmed, refueled, sustained, and maintained, while providing a secure C4 node for the commander.

Conclusion.

The MOB is an operational enabler supporting the execution of national will. It does not eliminate the requirement for other systems within DOD, but supports the commander in meeting the multiple operational taskings of the unsettled world of today. It changes the method of naval power projection, focusing on operations in the littoral.

The United States is a nation in a reactionary mode, responding to the demands laid upon it by a world in turmoil. As the last super power, the United States is striving to reach grand power status. A grand power is a nation which uses its operational capability to alter crisis outcomes before outside sources¹⁷ establish the agenda for it. A MOB is the operational component of the transition bridge from super power status to grand power status; as such its operational uses must be well defined.

This paper is only the first of many steps in the development of the operational concept of a MOB. The challenge for the reader is to use the same vision past commanders had, changing the tank from a pill box to an attack platform, the aircraft from an artillery observer to an offensive weapon, and the nuclear bomb from a weapon to a source of electrical power. Do not become blinded by visions of an oil derrick; see the operational

capabilities available for tomorrow, lest you fight the war of yesterday.

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